

Filtair[®]

623 - 814 - 824 - 936

XL 1646 - XL 1344 - XL 1044


Please read carefully
Important safety information



GB

11/2003

User's Manual

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Introduction

What must be absolutely known before using your Filtair[®]?
Or how to manipulate in total safety?

Congratulations for your excellent choice, your new equipment is manufactured according to a very high standard of quality which will guarantee its safe use over the years to come.

The Filtair[®] combines operator protection and protection of the environment by using a unique air recirculation system directly into the laboratory.

This is being made possible by the use of highly specialized filters which trap toxic molecules. This process named chemical adsorption allows to obtain purified air at the filter exhaust that is free from chemical pollutants. The efficiency and filter lifetime directly depend on the nature of the manipulation that will be carried out in the enclosure.

In order to maximize the Filtair[®] capabilities it is necessary before its use to verify the compatibility of your manipulation with the filters installed inside the unit.

To verify its compatibility, you may have already filled in an investigation "questionnaire" evaluating the risk linked to your specific manipulation. If it is not the case refer to section 3 page 9 "Dedicated Enclosure" it will explain to you the steps to take to fill in an investigation "questionnaire".

In return, you will receive a personalized "dedicated manipulation form" which will indicate filter lifetime and the additional information necessary to control the proper use of your Filtair[®] ductless fume hood.

Note that each time you change your manipulation, it will be necessary to re-evaluate its compatibility by filling another investigation "questionnaire".

This preliminary compatibility check and constant monitoring of your ductless fume hood's good use will allow you to work in total safety for many years.

In order to make these controls easier for you, your Filtair[®] is equipped with devices allowing you to quickly monitor the state of the different components insuring your safety: control of the air face velocity (section 6 page 27), periodical reminder for the detection of filter saturation "Timer" (section 5.1 page 19), manual detection of filter saturation (section 5.3 page 24), automatic detection of filter saturation (section 5.2 page 23).

A careful reading of this user's manual will insure you a worry free experience while working in total safety.

Your protection through The NF X 15-211 standard

Created by specialists,
Dedicated to your safety.

Protection of the operator with a ductless filtering fume enclosure or ETRAF (Enclosure for Toxics using Re-circulating Air Filtration) must be guaranteed by taking into account the constraints linked to its use, maintenance or ergonomics. In order to account for this need, the NF X 15-211 standard has been created.

It defines the specifications to be respected when designing a ductless filtering fume enclosure. Its aim is to guarantee the maximum safety to the operator.

Ductless filtering fume enclosures protect you from noxious or toxic vapours. Each pollutant found in the air and at the work place must not be breathed at a concentration superior to its threshold limit value (TLV). This value corresponds to the limit beyond which breathing vapours of a given product can be harmful to your health. The TLV of each polluting product cannot be cumulated with the TLV of other toxics. It is agreed that the level of toxicity in the air must be the lowest possible in comparison to the TLV.

In view of these specifications, the NF X 15-211 standard lays down requirements with regards to the quality of the air found at the filter exhaust of an ETRAF. Therefore, 2 classes of equipment are highlighted by the standard:

Class 1 = A class 1 ETRAF guarantees, during the normal operation phase, a concentration at the filter exhaust inferior to 1 % of the TLV.

Class 2 = A class 2 ETRAF guarantees, during the normal operation phase, a concentration at the filter exhaust inferior to 50 % of the TLV.

Regardless of the filtration objectives, the NF X 15-211 standard guarantees that a ductless fume hood will be equipped with indicators insuring the proper functioning of the cabinet (chart. 1). These components must indicate at all times the condition of the safety devices that protect you.

Equipment \ Type	Class 1 ETRAF	Class 2 ETRAF
Main Filter	●	●
Safety Filter	●	
Periodical reminder for the control of the filters' saturation		●
Automatic detection of the filters' saturation	●	option
Control of the air face velocity	●	●

Chart 1 Safety equipment according to the NF X 15-211

Note: Compliance with the NF X 15-211 standard must be guaranteed through an official test report provided by an authorized testing laboratory.

DEDICATED ENCLOSURE

Dedicated enclosure for an authorized and controlled usage

Compatibility control of your Enclosure for Toxics using
Re-circulating Air Filtration
(ETRAF)

Prior to any use of your ETRAF, it is very important to check the compatibility between the protection provided and the vapours that evaporate within the enclosure.

Different cases are possible:

- 1 - You have filled in an investigation questionnaire prior to your order. In this case, your enclosure is dedicated to your manipulation and you must have received by return mail a "dedicated captair[®] form" in its magnetic holder to be displayed on the front control panel of your enclosure (see page 12). Every time you change your manipulation, you will have to start a new validation process with the help of your distributor to verify that it can be carried out in the enclosure.
- 2 - You have not filled an investigation questionnaire prior to your order.

You have then 2 choices:

- 2.a - Have your manipulation checked by your distributor by filling in the enclosed investigation questionnaire or you can directly fill it on-line at: www.captairSales@erlab.com You will then receive by return mail a dedicated Captair[®] form. This form will indicate the most appropriate filter type to be used for your protection, its lifetime expectancy as well as the most appropriate detection system for filter saturation.
- 2.b - Check the compatibility of the products handled in the enclosure and its filter by consulting the guide of filtered products, provided with your equipment ("guide of filtered products" section 7 page 28).

The investigation questionnaire

The questionnaire is a document that allows our chemists, filtration specialists, to advise you on the most appropriate filters with regards to your protection. In order to have the most precise answer, this an investigation questionnaire has to be filled in carefully.

FILTERING HOODS

In order to help you to determine the CAPTAIR® hood and/or the filter suitable to your application, we kindly ask you to spend a few minutes answering the questions below and return this form to the following address:

ERLAB D.F.S. S.A.

Tél : 02 32 09 55 80

Fax : 02 32 09 55 90

Parc d'affaires des portes - BP 403
27104 Val de Reuil Cedex - France

E-Mail : vente@erlab.net

[http : www.erlab-dfs.com](http://www.erlab-dfs.com)

N°	PRODUCT NAME	CONTAINER			HANDLINGS													
		Type of Container	Surface of Evaporation cm²	Opened Yes / NO or others	Concentration %	Type of Handling	Temperature of Product °C	/ Day			/ Week			/ Month				
								Frequency How many	Duration mn	Quantity ml	Frequency How many	Duration mn	Quantity ml	Frequency How many	Duration mn	Quantity ml		
1	PHENOL	Beaker	5	O	100		22									8	30	40
2	CHLOROFORM	Tube	5	O	100		22				2	30	80					
3	FORMALDEHYDE	JaJ	5	O	4		22							2	15	10		
4	METHANOL	Bottle	5	O	100		22				1	20	20					
5	HYDROCHLORIC ACID	Pipette	5	O	1N		22							4	20	20		
6	ACETIC ACID	Burette	5	O	100		22	1	10	40								
7																		
8																		
9																		
10																		

Your additional comments:

A
B
C
D
E
F
G

Company:
User:
Tel:
Fax:
E-mail:

H
I
J

- A** * Product name is linked to the list of filtered products, i.e. to the product descriptions, its limit value (TLV), to the choice of the filter and its retention capacity, to the detection system that can be used and to the possible incompatibilities.
Important: If the product name is a brand name, it is necessary to send us, with the questionnaire, the safety data sheet provided by the manufacturer.
- B** * Type of containers: for example, you have to specify the number of "beakers, tubes..." that will be used in the enclosure at the same time (for example 6 tubes))
- C** * Surface of evaporation in cm² during the manipulation.
- D** * Is the container opened, closed or specify other type of containers used?
- E** * Concentration: is your chemical manipulated undiluted (100%) or diluted (50%, 1N...) do not forget to specify the name of the thinner if water is not used in column **A**.
- F** * Type of handlings such as an extraction for example.

G * Temperature of the product during the manipulation in °C (room temperature or x °C)

H I J * Are your manipulations done on a daily, weekly or monthly basis. Do not calculate, just write down the following:

- The frequency: how many manipulation per day, week or month.
- The duration: how long does the manipulation last per day, week or month (expressed in minutes)
- The quantity: volume of product in ml that is used for the manipulation day, week or month.

The answer to the investigation questionnaire

"DEDICATED ENCLOSURE FORM"

When the questionnaire is validated by our chemists, you will then receive the "dedicated captair[®] form" in a magnetic holder to be placed on the front control panel of your Filtair[®].

It reminds the user or the H&S advisor which type of manipulation can be carried out and makes available the following information relating to their protection:

- Products allowed in the enclosure
- Type of filter used (section 8 page 30 "Choice of filters")
- Filter lifetime expectancy
- How to detect filter saturation (section 5 page 17 "Detection of filter saturation")

IMPORTANT: Any changes to your manipulation can lead to an incompatibility with the use of the equipment. See with your distributor and check with him the compatibility of your equipment with the manipulation that will be carried out.

L

DUCTLESS FUME ENCLOSURE FOR USE WITH THE FOLLOWING CHEMICALS

K

1	<i>PHENOL</i>
2	<i>CHLOROFORM</i>
3	<i>FORMALDEHYDE</i>
4	<i>METHANOL</i>
5	<i>HYDROCHLORIC ACID</i>
6	<i>ACETIC ACID</i>
7	
8	

Filtair XL 1044	M - AS
List of chemicals based on QUESTIONNAIRE Number	Us06 08 2003
Filter Life time expectancy	12 Mounths
First chemical to be detected	CHLOROFORM
Tube detection	BRAND Dräger
	REF. 6728861
"SECURIFILTER" DETECTOR	OK
"MOLECODE™" SETTING	
APPROVAL DATE	08/01/2003

M

N

O

P

Q

R

S

T

Important for your safety: only the chemicals listed above that have been validated by our laboratory through the investigation questionnaire can be used in this Captair chem ductless fume hood enclosure. If you wish to change the original conditions of use (new chemicals or new methods), it is imperative that you re-validate this new application with our laboratory in order to insure your total safety.

IT IS A QUICK AND FREE OF CHARGE PROCEDURE THAT WILL GUARANTEE YOUR COMPLETE PROTECTION!

SUPPLIER :

U

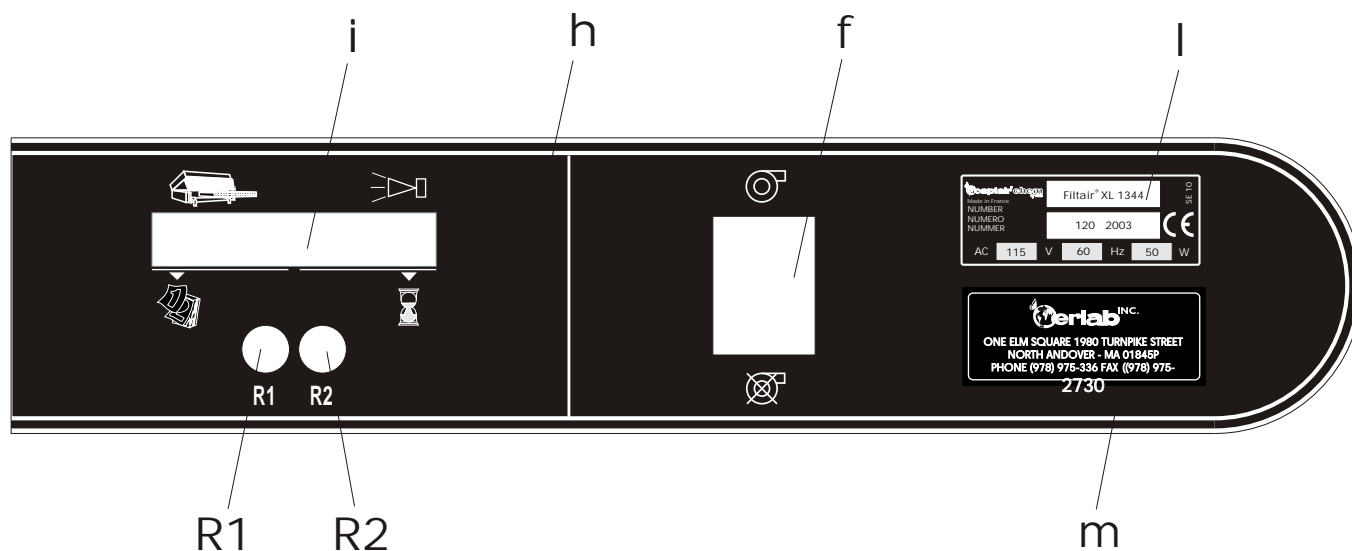
PHONE NUMBER:

V

- Ⓚ * List of products used.
- Ⓛ * Dedicated Captair[®] Model.
- Ⓜ * Type of cabinet and type of filter in accordance with your manipulation.
- Ⓝ * Questionnaire reference number to be mentioned on all documents.
- Ⓞ * Filter lifetime expectancy in accordance with the information given on the questionnaire.
- Ⓟ * Name of the first product to be detected with colour-coded reactive tubes if the cabinet is not equipped with an automatic filter saturation detector. According to the NFX 15-211 standard, filters must be checked every 60 effective working hours spent using a ductless fume hood.
- Ⓠ * Brand of the specific colour-coded reactive tube for the manual detection of filter saturation. This detection is necessary to check for filter saturation if the enclosure is not equipped with an automatic filter saturation detector.
- Ⓡ * Reference of the specific tube required for the manual detection of the chemical Product mentioned in box Ⓟ.
- Ⓢ * Code to be displayed for the Filtair[®] equipped with an automatic filter saturation detector "Securifilter" Optn 32.
- Ⓣ * Approval date corresponding to the date when the questionnaire has been Validated.
- Ⓤ * Contact details of the manufacturer or the distributor that can be contacted by the customer in case of any change in the manipulation (other products, other methods). Have this new manipulation validated by our laboratory before going any further.
This is a free of charge service that guarantees your complete protection.
- Ⓥ * Distributor or technical advisor phone number to be used in case of a manipulation change.

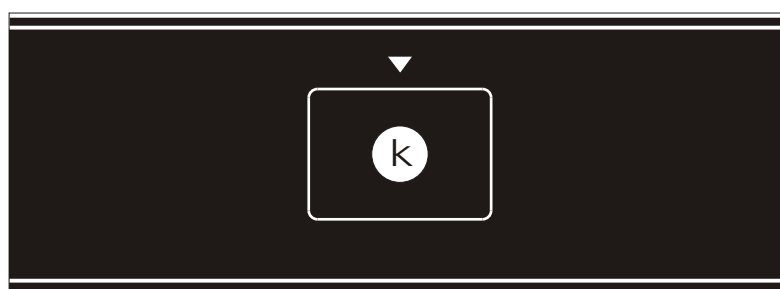


Front control panel description



Right hand side of the front panel control H.

- | | | | |
|----|---|----|--|
| F | - Ventilator/fan on-off switch | g | - (Red) warning light "Fan Failure" |
| H | - Lighting on-off switch | i | - LCD screen "Timer" |
| R1 | - Key 1 "Timer" | R2 | - Key 2 "Timer" |
| J | - External potentiometer
for the "Fan Failure" setting | l | - Identification tag |
| | | m | - Name of the manufacturer or its
Distributor |



Middle part of the front control panel H.

k - Sampling port valve.



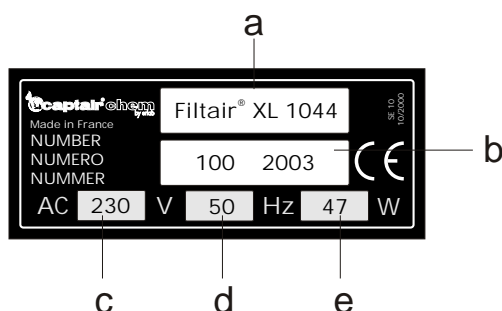
Left side of the front control panel H.

n - ETRAF Class label in compliance with the NF X 15-211 standard

* Please note that the left hand side may look different if your Filtair is equipped with the optional Securifilter detector. (Optn 32). (section 5.2 on page 23)

1 - Identification tag (right side of the front panel)

Make sure that your power supply complies with the actual supply voltage of your Filtair[®].



- a) Filtair[®] model
- B) Serial number
- C) Actual supply voltage
- D) Hertz frequency
- E) Total power in Watt

2 - Name of the manufacturer or its distributor (right side of the front panel)

Label with the manufacturer or distributor contact detail label.

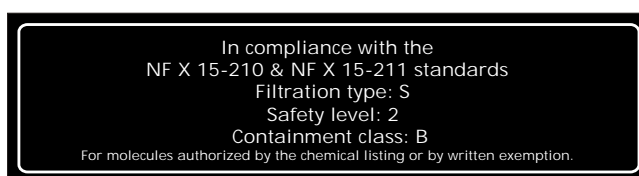


3 - Class label (left side of the front panel)

Your Filtair[®] is an Enclosure for Toxic using Re-circulating Air Filtration (ETRAF) in compliance with the NFX 15-211 French standard. The requirements of this standard are developed in section 2

* If your Filtair[®] is equipped with a sampling port and a periodical reminder for the manual control of filter saturation "Timer", the ETRAF is in class 2.

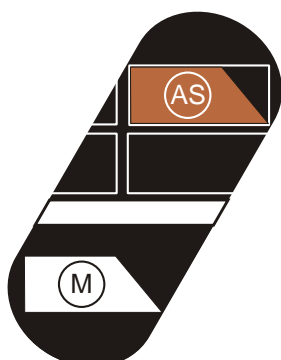
Class 2 label



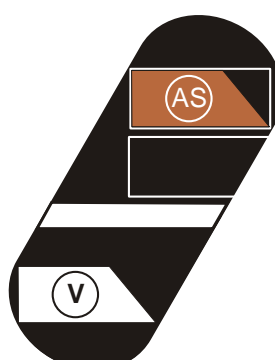
4 - Filter type check

The type of filters that are installed in your Filtair[®] are visible through the oblong hole located on J. Page? Section?

Type
M



Type
V



5 - Switching on the equipment


Your Filtair[®] is equipped with 1 on-off switches

- An on-off switch with a green light for the general control.

Before using your Filtair[®], the fan switch must be turned on " I  ".

Your Filtair[®] is now ready for use subject to the recommendations contained in section 3 or in section 7 "Guide of retained products" and in section 10 "Front door panel position".

6 - Recommendations for use

When your manipulation is over, it is recommended that you shut down the Filtair[®] but before doing so, we strongly advise you to leave the fans running for a few minutes to make sure that all vapours and fumes are totally eliminated from the enclosure. You can then turn off the switch controlling the fan(s) " O  ".

If any chemical has spilled on the worktop, do not switch off the fans. Thoroughly clean the worktop and retention tray if necessary (the worktop is removable). Leave the fan(s) running until all traces of chemicals have been removed.

Filter saturation detection

Your protection is guaranteed by a filtration system using high efficiency filter cartridges. These filters eliminate the air pollution by adsorption. However filter lifetime expectancy is limited and varies according to your manipulation.

When the filters become saturated, your safety cannot be further guaranteed. For this reason, it is necessary to check the condition of your filters regularly.

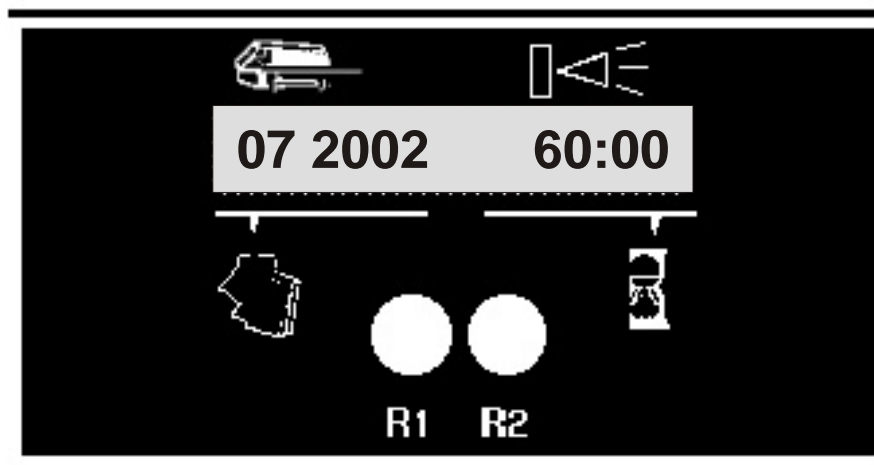
Your Filtair[®] is equipped with unique systems capable of controlling filter performance.

- A periodical reminder for the manual control of filter saturation. "The Timer" (Section 5.1 page 19) is an electronic clock which reminds you to check your filter every 60 hours of use.
- An automatic detection (Optn 32) for the control of filter saturation. The "Molecode[™] detector" (Section 5.2 page 23) allows for the permanent control of filter saturation with organic vapours.
- A sampling port for the manual detection of filter saturation (Section 5.3 page 24), located between the main filter and the safety back-up filter, allows for the control of air samples in order to detect pollution levels by using an appropriate method in accordance with the product handled (colour-coded reactive tube, HPLC, GC...).

If by using one of these detection methods, a saturation of the main filters has been detected, you will then have to replace them immediately. The safety back-up filters allow you to finish your manipulation in total safety and in compliance with the requirements of the NF X 15-211 standard.

The "Timer"

Periodical reminder for the manual control of filter saturation



07 2002

60:00



LCD screen displays month, year.
Count down from 60h00 to 00h00.



Date (month, year) of installation of the new filter.



"Timer" 60 hour block audible alarm with a one hour previous notice.

R1



Key to select or modify a message "NEW FILTER" or "GOOD FILTER".

R2



Key to validate the message and stop the audible alarm.

Directions for use

General points

All Filtair[®] are equipped standard with the "Timer". The "Timer" displays and memorizes the date of installation of a new filter (month, year). It counts down the time while the equipment is in operation by periods of 60 hours. It keeps in memory the time left each time the equipment is switched off. It reminds and warns the operator every 60 running hours that it is time to check for filter saturation.

Filter saturation control for the Filtair[®] not equipped with the "Securifilter" automatic detector optn 32 is carried out with a manual detection system such as a colour-coded reactive tube called the "Captair[®] tube" (provided with the equipment) or Dräger or Gastec, other brands not provided.

First use

Follow method chart as shown on page 21.

.*Step 1

Every time you switch on your Filtair[®], the date when the filter was first put in place and time remaining before the next filter saturation manual control are displayed on the "Timer" LCD screen.

*Step 2

When the remaining time runs down to 1 hour, an intermittent audible alarm sounds. Pressing the R2 key will stop this alarm. Two messages are then displayed on the LCD screen at intervals during the last hour of the countdown before the filter saturation manual control is needed.

*Step 3

When first switching on the equipment or when the countdown has reached 00h00, a continuous audible alarm rings and the message "FILTER TEST" is displayed on the LCD screen. It is then time for a filter saturation control with a manual detection system. Follow instructions (Section 5.3 page 24) "Manual detection of filter saturation" before going to step 4.



This control is not necessary when using the equipment for the first time; you can then push the R2 key.

*Step 4

After having manually checked for filter saturation, push the R2 key to stop the audible alarm a message is then displayed on the LCD screen. You have then 20 seconds to confirm each message.

*Step 5

Message "GOOD FILTER" follow method diagram shown on page 22.

*Step 5b

Filter replacement. Message "NEW FILTER", follow method diagram shown on page 22.

First installation
Date modification

10 2002 59:50

Press simultaneously on keys R1 + R2

TEST FILTER

Press key R2

NEW FILTER $\xleftrightarrow{R1}$ **GOOD FILTER**

Select New Filter R1
validate with key R2

CONFIRM

validate with key R2

DATE: M--Y----

modify the month M-- using key R1
validate the month with key R2

DATE: M09Y----

modify the 2 first digits for the year A - - using key R1
Validate with key R2

DATE: M09Y20--

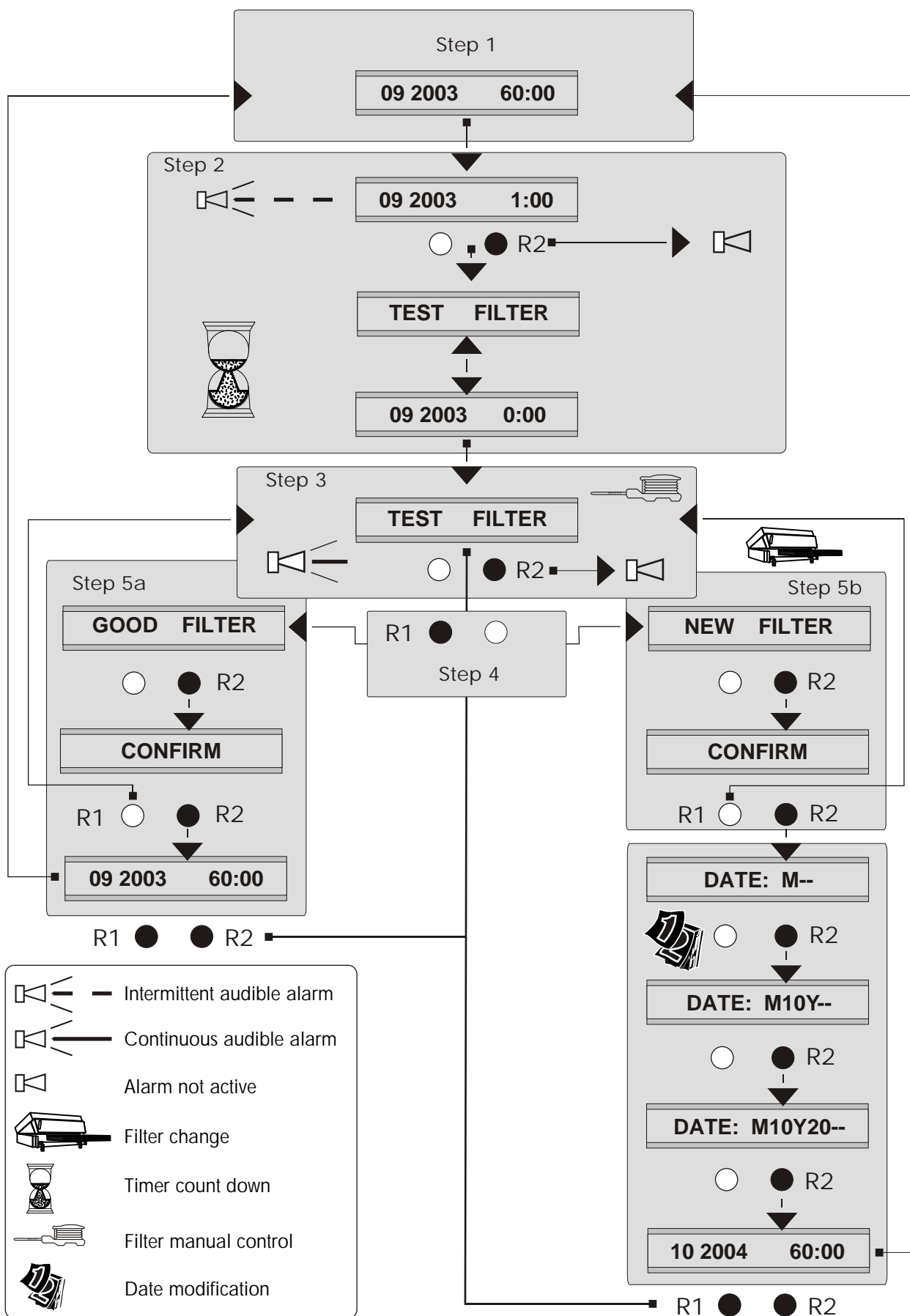
modify the last 2 digits for the year 20 - - using key R1
validate the year with key R2

DATE: M09Y2003

validate the date with key R2

09 2003 60:00

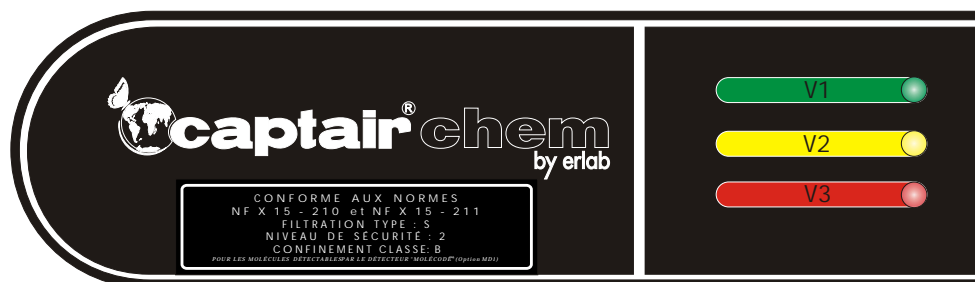
Synoptic functioning chart



"Securifilter" Detector (Option 32)

Automatic Detection of the Filter(s) Saturation

Front panel control



OPERATING INSTRUCTIONS

The Securifilter becomes active at the time you turn on your Filtair[®] unit using the main switch. The green indicator light V1 blinks for a minute, then becomes steady. Should the audible and visual alarm (red indicator light V3) go off for a while, it indicates a static pollution of the sensor by the air of the laboratory. This alarm will stop once the sensor stabilizes and is decontaminated. In case an electronic problem or a sensor failure is detected, the Yellow indicator light V2 stays on.

In this case, please contact us.

DETECTION PRINCIPLE

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CHEMICAL

LISTING

January 2001 Edition
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CHEMICAL NAME	FORMULA	MOLECULAR WEIGHT MW	BOILING POINT Bp °C	MELTING POINT Mp °C	Official limit values						Max Qty In The hood	Toxic Class	Type of Captair®	CHOICE OF FILTER Retention capacity in grams				DETECTION SYSTEM			REMARKS	
					ppm				mg/m³					AS	BE	K	Specific Filter	N°	SCF ◆	MC		
					TLV TWA	FR VME	MAK TRK	Oil.	TLV TWA											S2		S3

The Securifilter uses a sensor adapted for the detection of a number of types of organic gases and vapors (see column MC - Detection System - of the Chemical Listing). The detection principle is based on the variation of the electrical resistance of a metallic oxide in relation with the gaseous.

concentration at a stable working temperature. This variation activates a audible and visual alarm (red indicator light V3) when the filter has reached saturation and releases a very limited amount of the organic gas or vapour being used.

- 1 - The audible and visible alarm is discontinued and even stops for a while: it is time to order a replacement filter.
- 2 - The audible and visible alarm is continuous: it is time to change your filter.

TECHNICAL FEATURES

- Power according to country: 100 - 115 - 230 Volts
- Protecting fuse: 1 Amp.
- Scope of measurement: a few ppm

FILTER SATURATION MANUAL DETECTION

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CHEMICAL

LISTING

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CHEMICAL NAME	FORMULA	MOLECULAR WEIGHT MW	BOILING POINT Bp °C	MELTING POINT Mp °C	Official limit values					Max Qty In The hood	Toxic Class	Type of Captair®	CHOICE OF FILTER Retention capacity in grams				DETECTION SYSTEM			REMARKS
					ppm				mg/m ³											
					TLV TWA	FR VME	MAK TRK	Oil	TLV TWA				AS	BE	K	Specific Filter	N°	SCF	MC	
																		◆	S2 S3	

- A - You have filled an investigation questionnaire
The chemical to be detected, the make and reference of the specific detection tube are listed on the dedicated Captair® form.
- B - You have not filled an investigation questionnaire
Refer to the chemical listing. In the "detection system" column, you will find the appropriate detection system for each chemical to be used in the following manner:
- 1) "Specific detection reactive tube" (Gastec, Dräger, or any other make).
 - 2) "Analytical method and air sampling standard" when no specific detection tube exists for the chemical to be detected.

Testing frequency

Detection of filter saturation is to be carried out every 60 working hours. The Timer reminds this frequency automatically.

- "Specific detection reactive tube" procedure

Cut the ends of each tube and assemble them to the pump as indicated on page 26. Connect firmly the nylon nozzle into the sampling port so that the valve of the detection chambers(s) is open, and take numbers of stroke of the pump in compliance with the manufacturer procedure.

If any colour change becomes apparent in the tube, we then recommend the replacement of the main filter(s) as quickly as possible.




- Recording of the results

Use the relevant pages of the "chemical listing" booklet (starting p31) to record the test results.

CAPTAIRCHEM® Filtair® logsheet

Safety through predetection of filter saturation

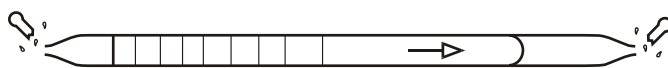
Name of the chemicals used:
 Serial number of main filter:
 Serial number of safety filter :
 Date of filter installation:

Date of tests		Day					
		Mount					
Detection with coded reactive tubes	Captairtube Multitest		1 A→E				
			2 A→D				
			3 D→A				
	Specific detector tubes	Dräger					
		Gastec					
		Other					

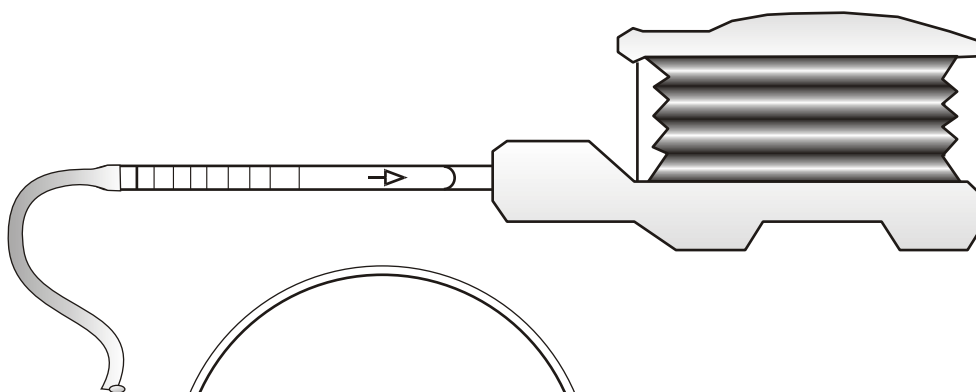
Positive test ⇒ Filter saturated if there is a color change.
 Negative test ⇒ Filter O.K. if there is no color change.

Filter saturation Manual detection principle

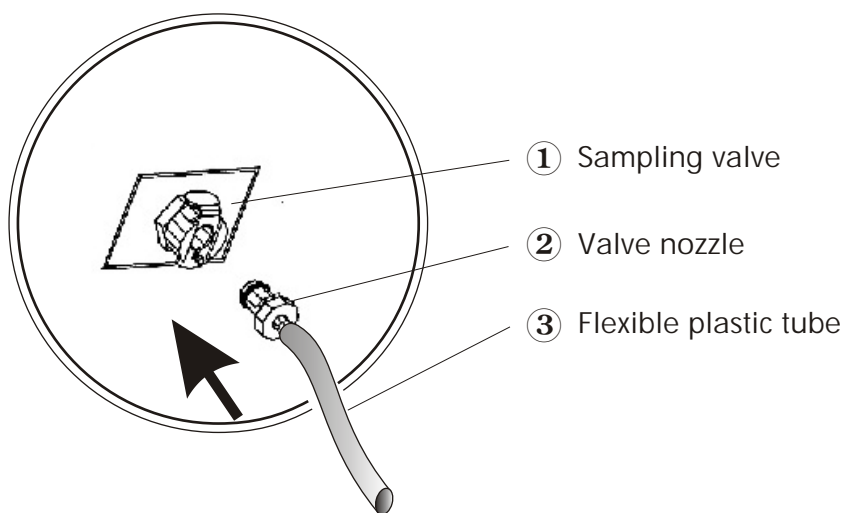
1



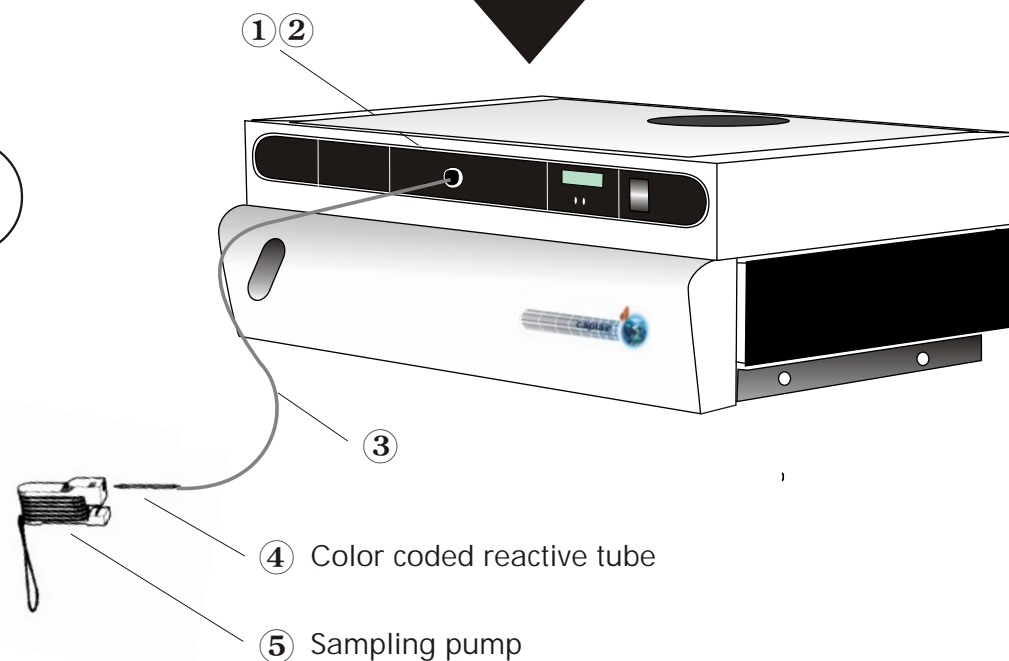
2



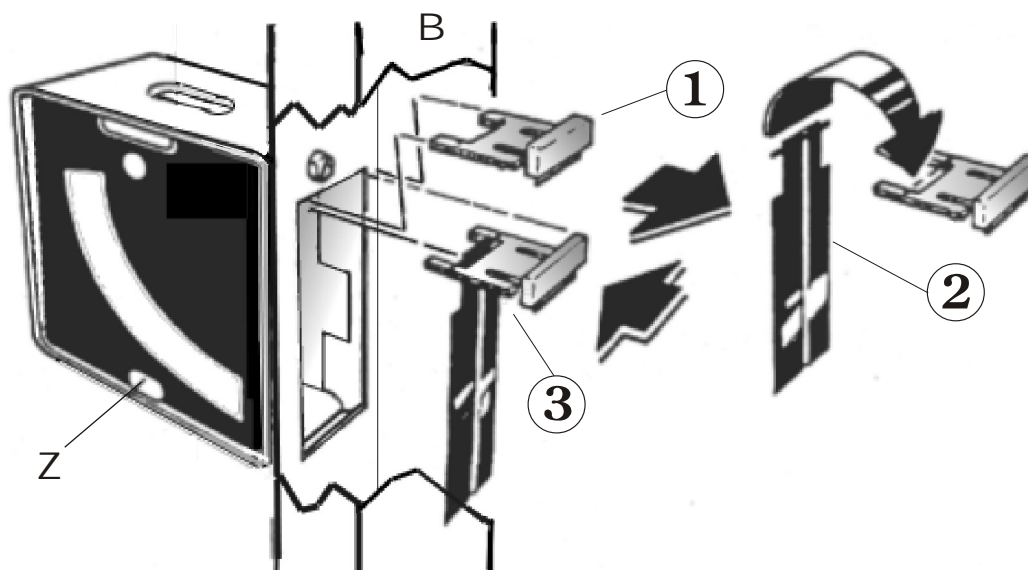
3



4



Control
of the air face velocity



Air velocity meter

1 - Installation of the vane

This has to be done when the vane (2) is not in the velocity meter. Pull the vane holder from the end of the air meter (Z) accessible from the opening located on the side panel. Carefully remove the vane (2) from the plastic bag. Hang the vane by its wire and place it in the left and right slots located on the vane holder. Finally re-install the vane holder by sliding it back into (3) the velocity meter.

2 - Reading of the air velocity

In order to obtain an accurate reading, make sure that the bubble level integrated in the velocity meter is set correctly. For accurate readings, it is advised to step away from the front openings of the enclosure and to avoid any rough movement near the meter while doing the readings. The value obtained will be the average of the readings obtained from the possible position variations on the scale. It should be $>0,50 \text{ m/s}$ ($>100 \text{ Fpm}$) with the Filtair® Lower front door (F) closed.

List of approved chemicals

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CHEMICAL

LISTING

CHEMICAL NAME	FORMULA	MOLECULAR WEIGHT MW	BOILING POINT Bp °C	MELTING POINT Mp °C	Official limit values						Max Qty In The hood	Toxic class	Type of Captair®	CHOICE OF FILTER Retention capacity in grams				DETECTION SYSTEM			REMARKS	
					ppm				mg/m³					AS	BE	K	Specific Filter	N°	SCF ◆	MC		
					TLV TWA	FR VME	MAK TRK	Off.	TLV TWA	MC S2										MC S3		

* You have purchased your Filtair® following an investigation questionnaire and your cabinet is therefore dedicated to an authorized and controlled usage.

**You have bought your Filtair® without filling in an investigation questionnaire describing your intended manipulations. Do not then hesitate to obtain this document by contacting us or by contacting your local agent. Otherwise, before carrying out a manipulation please refer to the chemical listing provided with your cabinet.

A - Validate your chemical(s)

- The chemical(s) you intend to manipulate can be found in the chemical listing:
 - Check if there is no limit mentioned in the "remarks" column. If there is one, please contact the manufacturer or your local supplier.
 - Check that your Toxicap is fitted with the correct filter(s).
The retention capacity (for an emission level at 1% of the TLV/OEL) is indicated in the appropriate column relating to the carbon filter to be used.

Example: Acetic acid (page T1) - use an AS or a BE filter

When a telephone sign is indicated, please contact your local supplier.

- The chemical(s) you intend to manipulate cannot be found in the chemical listing:

Please contact your supplier so that you may know:

 - if the manipulation can be carried out
 - which is the appropriate filter
 - what is the approximate retention capacity of the filters

B - Estimated filter life

The chemical listing gives you the retention capacity (at an emission level of 1%) for the filter combination as it exists in your Filtair®.

Example: Acetic acid - Filter "AS"

Filtair® 623 : 885 g

Filtair® 814 - 824 - XL 1044 - XL 1344: 1180 g

Filtair® 936 - XL 1646: 1770 g

For practical and economical reasons, it is generally accepted that a minimum acceptable filter(s) life should be no less than 6 months. Here is how to proceed in order to estimate filter life. Calculate the approximate quantity of the chemical that will be evaporated during each handling. Then divide the total retention capacity indicated for this chemical by the total quantity of the chemical evaporated. You will therefore obtain the likely number of handlings which can take place before emission levels can be detected. If the handling will take longer than 6 months to complete, then proceed with the use of your Filtair[®].

If the calculation leads to less than 6 months worth of filter life, we recommend either using a more appropriate mean of protection, or modifying your manipulation in order to reduce chemical evaporation

Example:

Acetic acid used in a Filtair[®] 936

- Total retention capacity: 1770 g
- Quantity evaporated in each handling: 4 g
- $1770 / 4 = 443$ possible handlings
- If there were to be 10 handlings each week:
- $443 / 10 = 44$ weeks (1 year) likely filter lifetime

*

C - Maximum quantity to use

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January 2001 Edition
Duplication not authorized

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					ppm				mg/m³	AS				BE	K	Specific Filter	N°	SCF ◆	MC		
					TLV TWA	FR VME	MAK TRK	Oil.											TLV TWA	S2	

The "chemical listing" booklet specifies the maximum quantity of a chemical which can be kept within the enclosure during the handling process. In the event of an accidental spillage or breakage, the safety back-up filter system has the ability to retain the specified quantity (see safety/accident section of the AFNOR NF X 15-211 standard). For your own safety as well as that of others, we strongly recommend respecting this limit.

The Filtair[®] is not designed for the storage of chemicals other than when the cabinet is in use with the fan(s) running.

How to select a filter

Filters type AS and BE are polyvalent for most organic vapours and acid Handlings.

Nevertheless we recommend:

- Filter type AS for handlings where organic vapours predominate.
- Filter type BE for handlings where acid vapours predominate.
- Filter type F is used for handlings where Formaldehyde predominates.
- Filter type K is used for handlings where Ammonia predominates.
- Filter type G is used for handlings with radioactive iodine.

In **3** steps select a filter for Filtair®

1 If your application generates.

- Gases or vapors
- Without fumes and liquid aerosols

You should select a filter of type MF in the table below.

2 If your application generates.

- Gases or vapors
- Fumes and liquid aerosols


You should select a filter of type VF in the table below.

	623	814	824	936	XL 1 044	XL 1344	XL 1646
MF4		1	1		1	1	
MF3	1			2			2
VF4		1	1		1	1	
VF3	1			2			2

The figures indicate the quantity of filters to order depending on the type of Filtair®

3 After you have selected a filter MF or a filter VF .

- In the table below, select the filter qualified for the type of gases or vapors that you handle:

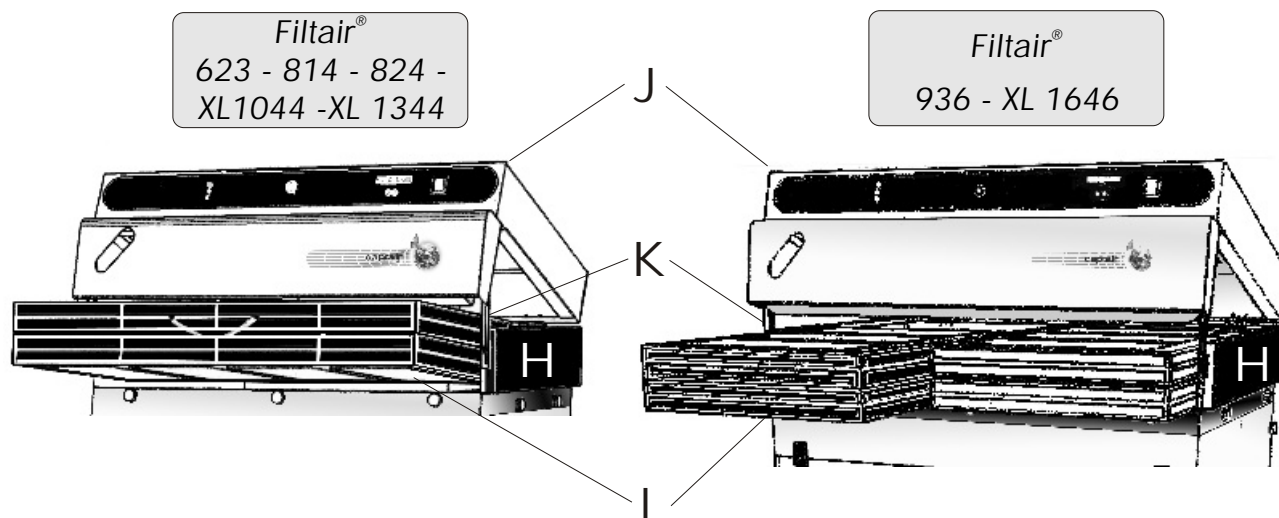
Choice of filters  Filtair®			
Polyvalent filter for handlings where Organic vapors predominate	➡	Filter	ⒶS
Polyvalent filter for handlings where Acid vapors predominate	➡	Filter	ⒷE
Specific for FORMALDEHYDE	➡	Filter	Ⓕ
Specific for AMMONIAC	➡	Filter	Ⓚ
Specific for radioactive IODINE	➡	Filter	Ⓖ

Example of a purchase order:

For a Filtair® 936, you have selected a filter type MF3, then a BE qualification.

Your purchase order should read : 2 filters type MF3/BE

How to replace a filter



The replacement of the filter(s) should be done in the following cases:

- 1 - When the concentration at exhaust detected through the reaction of the color coded reactive tube indicated that 50% of the TLV of chemical being tested has been reached
- 2 - When the red indicator light and the audible alarm on the automatic detector "Securifilter" (option 32) are on and continuous.

Before you start, make sure that the Filtair[®] is turned off.

* It is recommended to wear gloves when handling filters.

Open the expansion chamber J and hold it open with the two swivel arms K. Retrieve the saturated filter and install the new filter L making sure it is pushed to the very back of its casing H and that the filter identification letters are in their normal position. Lift up the expansion chamber J and push the swivel arms K back into their casing. Close Down the expansion chamber J.

Your Filtair[®] is ready for use again.

Front panel positions

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CHEMICAL LISTING

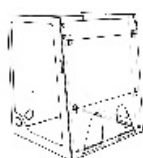
January 2001 Edition
Duplication not authorized

CHEMICAL NAME	FORMULA	MOLECULAR WEIGHT MW	BOILING POINT Bp °C	MELTING POINT Mp °C	Official limit values					Max Qty In The hood	Toxic Class	Type of Captair®	CHOICE OF FILTER Retention capacity in grams				DETECTION SYSTEM			REMARKS
					ppm				mg/m³											
					TLV TWA	FR VME	MAK TRK	Oil	TLV TWA											
													AS	BE	K	Specific Filter	Nº	SCF ◆	MC S2 S3	

Depending on the Toxicity of the chemicals handled, the front panel of the Filtair® has to be in one of the following positions. Please refer to the chemical listing provided with your Filtair®.

In the "official limit values", (valid at the time of printing) you will find the occupational exposure limits (concentration level that someone can breathe every working day with no health hazard) for each chemical, as defined in the USA (TLV), in the UK (OEL), in Germany (MAK) and in France (VME).

1



CLOSED LOWER DOOR, IN COMPLIANCE WITH AN AIR FACE VELOCITY BETWEEN 0,50 AND 0,60 m/s, FOR CHEMICALS AS FOLLOW

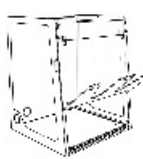
CLASS A, TLV VME MAK from 0 to 10 ppm
CLASS B, TLV VME MAK from 10 to 500 ppm
CLASS C, TLV VME MAK > 500 ppm

YOU CAN HANDLE CHEMICALS IN YOUR Filtair® AS DESCRIBED IN TOXIC CLASS A,B OR C OF THE "CHEMICAL LISTING"

The exposure limit is between 0 and 10 ppm:

It means the chemicals is in class A, and all handlings must be carried out with the lower door in position 1, i.e. Down

2



OPENED LOWER DOOR, IN COMPLIANCE WITH AN AIR FACE VELOCITY OF 0,4 m/s FOR CHEMICALS IN

CLASS C, TLV VME MAK > 500 ppm

YOU CAN HANDLE CHEMICALS IN YOUR Filtair® AS DESCRIBED IN TOXIC CLASS C OF THE "CHEMICAL LISTING"

The exposure limit is superior to 500 ppm (class C), the work can be carried out with the front door in position 2, i.e. lower door opened.

3



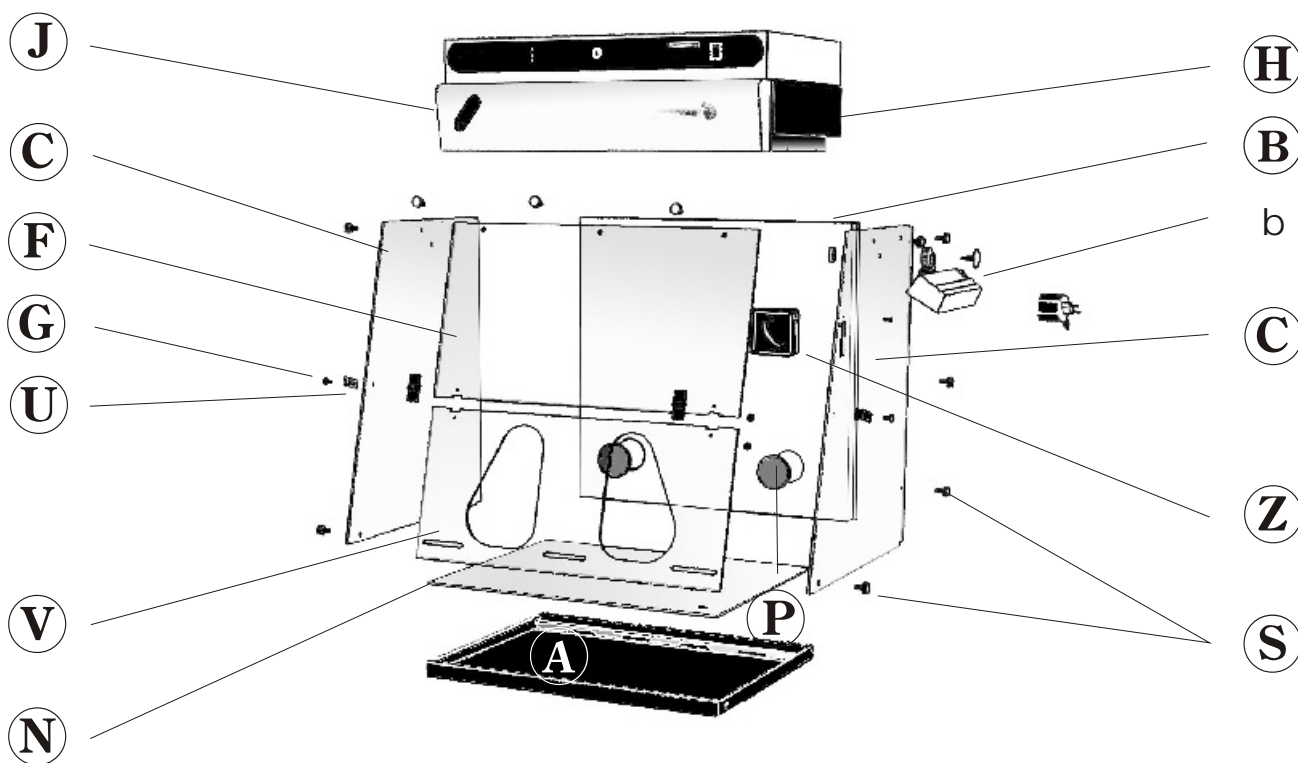
FRONT PANEL COMPLETELY OPEN, ONLY FOR INTRODUCTION OF EQUIPMENT INSIDE THE ENCLOSURE WITH NO CHEMICAL EVAPORATION

POSITION 3 (FRONT PANEL COMPLETELY OPEN) IS NOT A WORKING POSITION. IT IS ONLY TO INTRODUCE LARGE EQUIPMENT OR TO CLEAN THE ENCLOSURE OF THE Filtair®

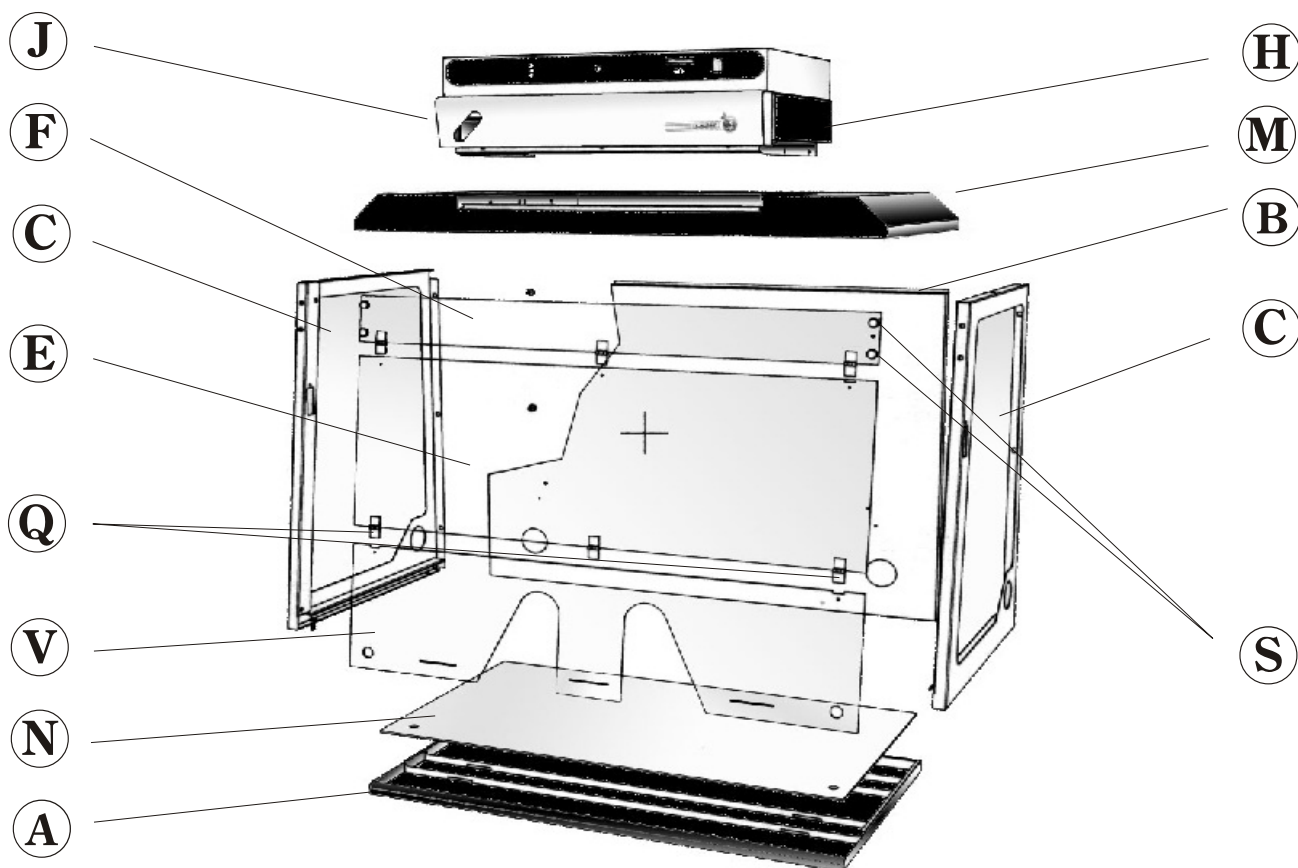
In Position 3 the front panel is completely opened: it is not a working position. It is only to introduce large equipment or to clean the Filtair® enclosure.

Exploded view of the Filtair[®]

623 - 814 - 824

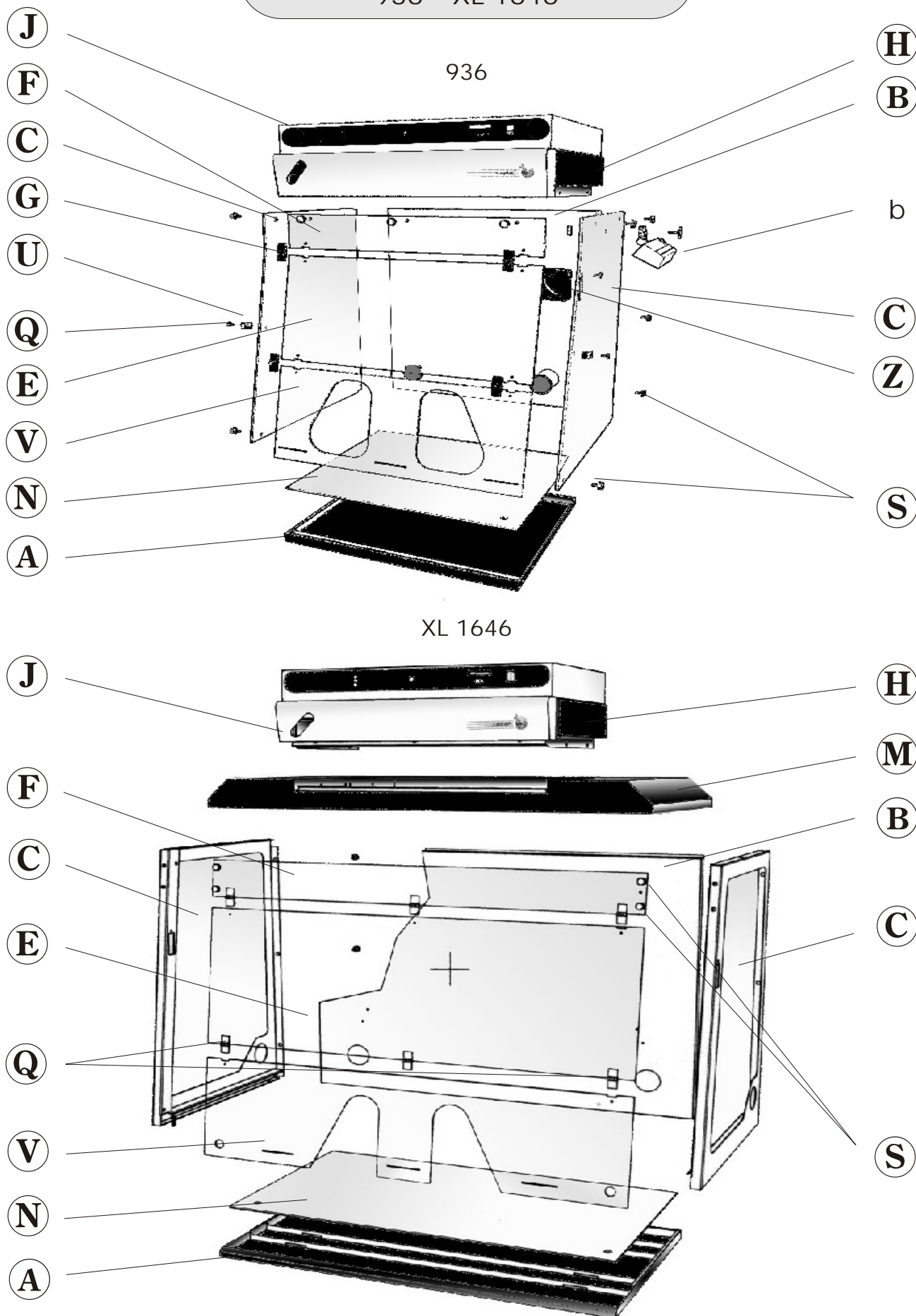


XI 1044 - XL 1344



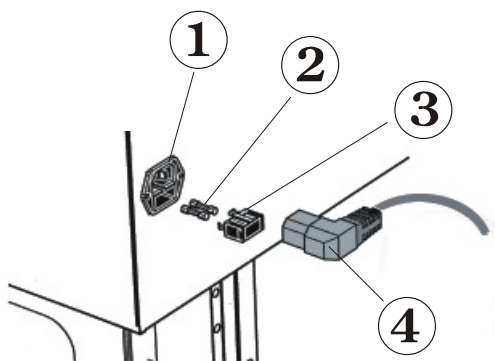
Filtair® 623 - 814 - 824 SPARE PARTS	
REFERENCE	DESIGNATION
Z	Air velocity meter
A : PIDT03109 PIDT03206 PIDT03106	Spill tray 814 Spill tray 623 Spill tray 824
B	Back panel 623 ou 814 ou 824
C1: PIDVI5101 PIDVI5201	Side panel P 814 Side panel PP 623 et 824
C2: PIDVI5100 PIDVI5200	Side panel B 814 Side panel B 623 et 824
F : PIDVI5104 PIDVI5003 PIDVI5203	Visor 814 Visor 623 Visor 824
V : PIDVI5002 PIDVI5105	Lower door 623 Lower door 814 et 824
Q : PID779 G : PIDTOG824	Two plastic hinges Side clq;p
b : OPTN 5SF OPTN 5SGB OPTN 5SUS	Lighting Option Europe 230V Lighting Option prise UK 230V Lighting Option USA 127V
R : PID 106 R : PID 107 R : PID R : PID	Electrical cordset (Europe) Electrical cordset (USA - Japan) Electrical cordset (UK) Electrical cordset(Switwerland)
S : PIDBO086 U : PIDMSU824 PIDMS032	Six nylon screws M8x25 Two screws PP black M6x16 Six nuts PP black M6
Filtair® 623 L : MF3 L : VF3	Filter AS, BE, K, F Filter AS, BE, K, F or specific
Filtair® 814 - 824 L : MF4 L : VF4	Filter AS, BE, K, F FFilter AS, BE, K, F or specific
H K J	Filter holder frame 623 ou (814 et 824) Swivel arm Expansion chamber 623 ou (814 et 824)

Exploded view of the Filtair[®] 936 - XL 1646



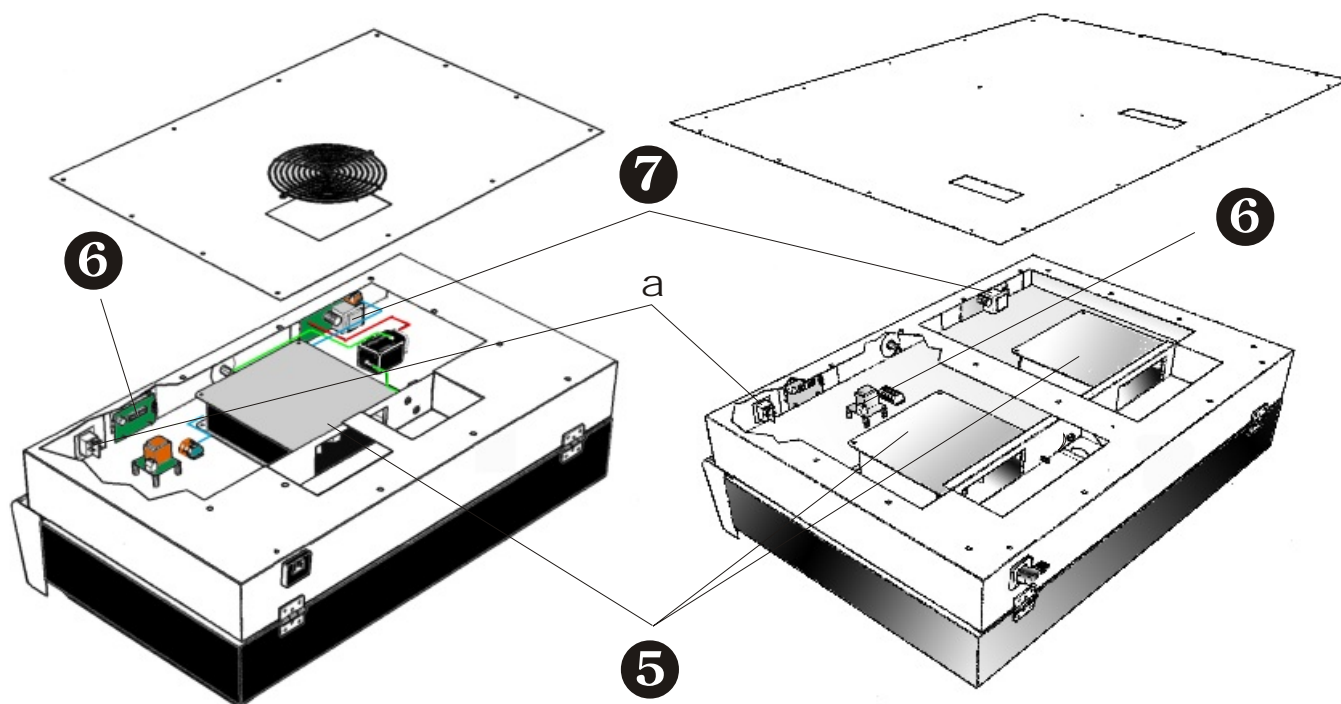
Filtair® 936 SPARE PARTS	
REFERENCE	DESIGNATION
Z	Air velocity meter
A : PIDT03009 PIDTO	Spill tray 936 Spill tray XL1646
B	Back panel 936 Back panel XL 1646
C1: PIDVI5101	Side panel P 936 Side panel P XL 1646
C2: PIDVI5100	Side panel B 936 Side panel B XL 1646
F : PIDVI5304 PIDVI	Visor 936 Visor XL 1646
E : PIDVI5104 PIDVI	Middle door 936 Middle door XL 1646
V : PIDVI5002 PIDVI5105	Lower door 936 Lower door XL 1646
Q : PID779 G : PIDTOG824	Two plastic hinges Side clamp
b : OPTN 5SF OPTN 5SGB OPTN 5SUS	Lighting Option Europe 230V Lighting Option UK 230V Lighting Option USA 127V
R	Electrical cordset (Europe) Electrical cordset (USA - Japan) Electrical cordset (UK) Electrical cordset(Switzerland)
S : PIDBO086 U : PIDMSU824 PIDMS032	Six nylon screws M8x25 Two screws PP black M6x16 Six nuts PP black M6
L : MF3 L : VF3	Filter AS, BE, K, F Filter AS, BE, K, F or specific
H	Filter holder frame
K	Swivel arm
J	Expansion chamber

Electrical (Technical) parts



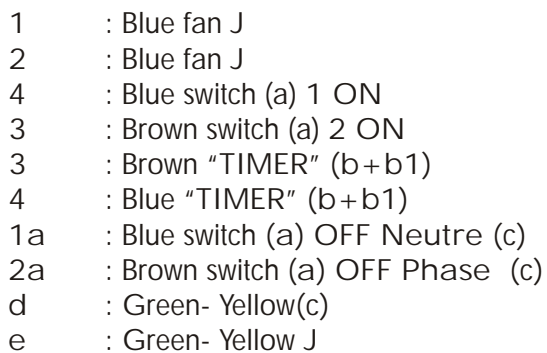
Filtair®
623 - 814 - 824
XL 1044 - XL 1344

Filtair®
936
XL 1646

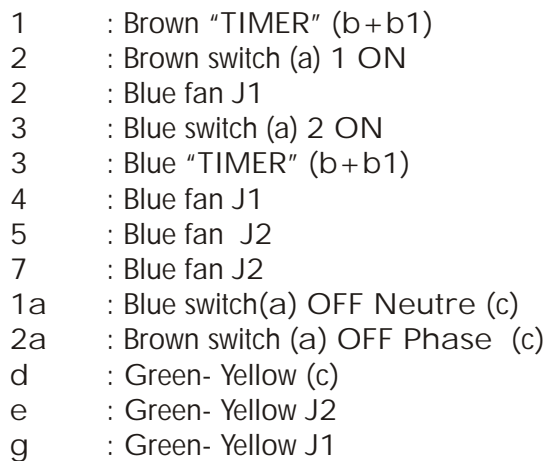


- 1 Electrical socket
- 2 Fuses 5X20 4A
- 3 Fuse holder
- 4 Electrical plug
- 5 Filtair® ventilator (623-814-824-XL1044-XL1344)
- 6 "Timer" circuit board
- 7 "Securifilter" Option 32 circuit board
- a General switch

Filtair® 623 - 814 - 824 - XL 1044 - XL 1344

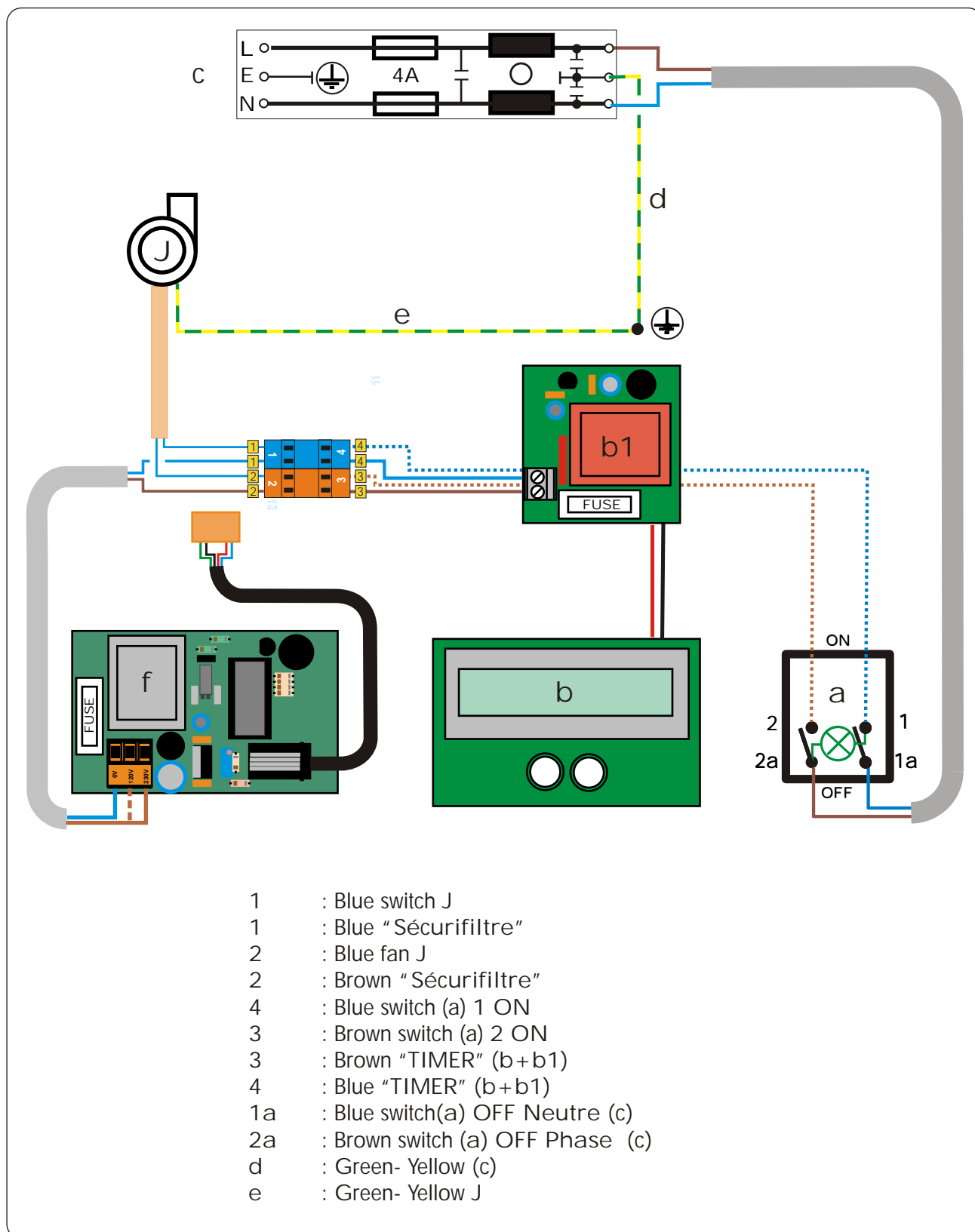


Filtair® 936 - XL 1646



Electrical wiring diagram with Option 32 "Securifilter"

Filtair[®] 623 - 814 - 824 - XL 1044 - XL 1344



Filtair® 936 - XL 1646

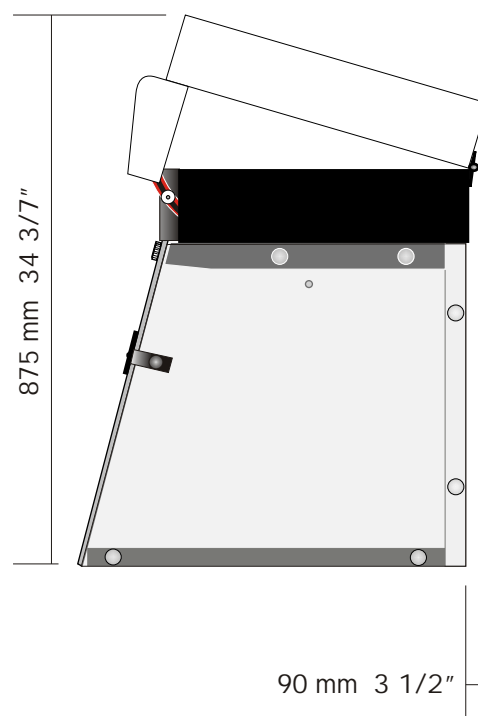
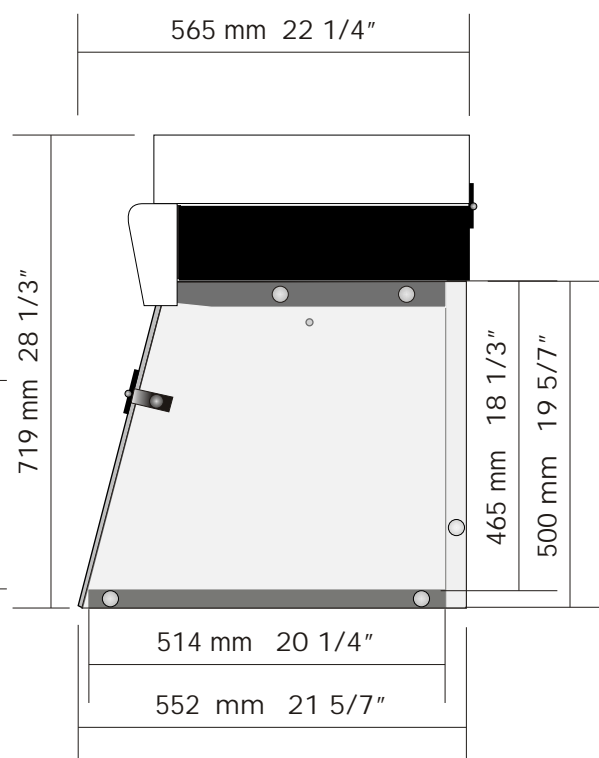
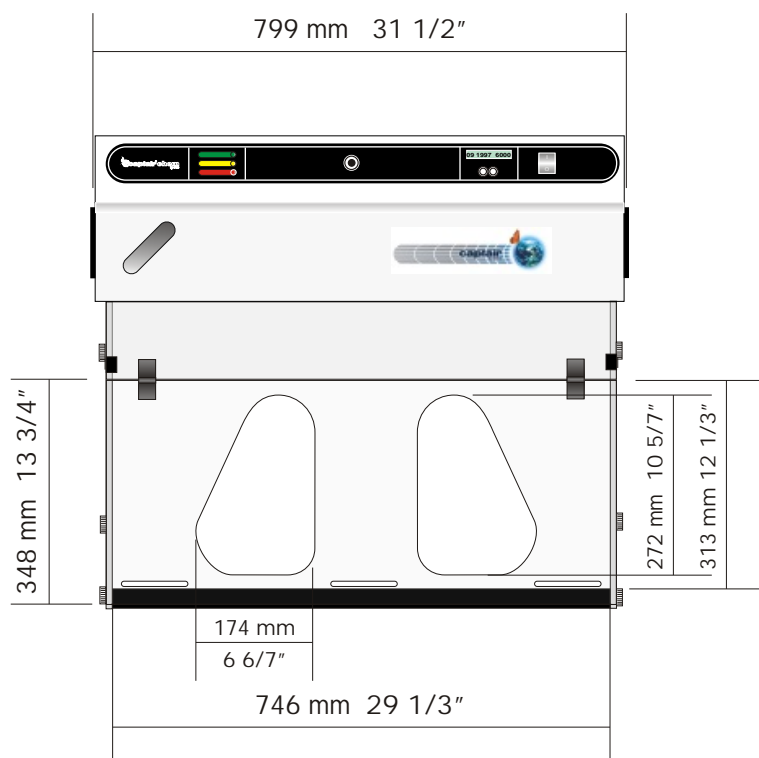


Filtair® specifications

Model		623		814		824		936	
Type		M	V	M	V	M	V	M	V
External dimensions mm	Length	610		799		799		871	
	Height	967		719		967		1106	
	Depth	625		565		625		735	
Internal dimensions mm Filtair® with spill tray	Length	556		746		746		818	
	Height	712		465		712		832	
	Depth	571		514		571		692	
Internal dimensions mm Filtair® without spill tray	Length	556		746		746		818	
	Height	747		500		747		867	
	Depth	571		514		571		692	
Retention capacity (CCl ₄) phase 4 NF X 15 211 g		785		1050		1050		1575	
Quantity of fans		1		1		1		2	
Quantity of main filters		1		1		1		2	
Total weight of the carbon filters		4,3		5,7		5,7		8,6	
60 hour "Timer"		Serial		Serial		Serial		Serial	
Automatic detection of main filter(s) saturation		Option 32		Option 32		Option 32		Option 32	
Air velometer		Serial		Serial		Serial		Serial	
Volume of air treated	m ³ /h	110	105	150	145	150	145	200	195
Air velocity with lower door closed	m/s	0,51	0,50	0,51	0,50	0,51	0,50	0,51	0,50
Sound level	dBA	48		49		49		5	
Lighting	1 X 11 watts	Option 5S		Option 5S		Option 5S		Option 5S	
Power consumption	Watts	47		47		47		94	
Electrical voltage	Volts	230		230		230		230	
Frequency	Hz	50		50		50		50	
Amperage absorbed		0,31		0,31		0,31		0,62	
Weight of the cabinet	kg	58		56		62		85	

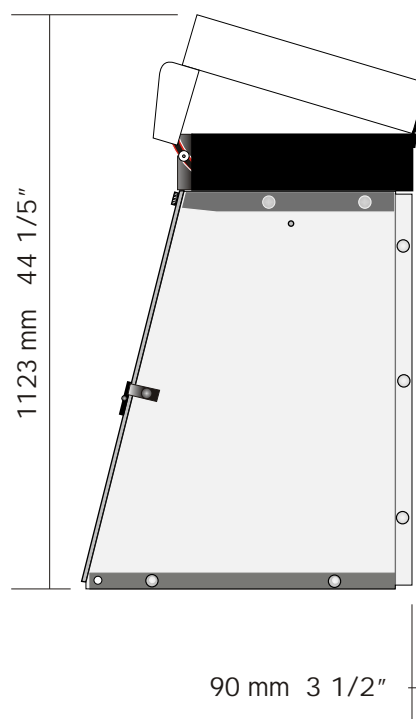
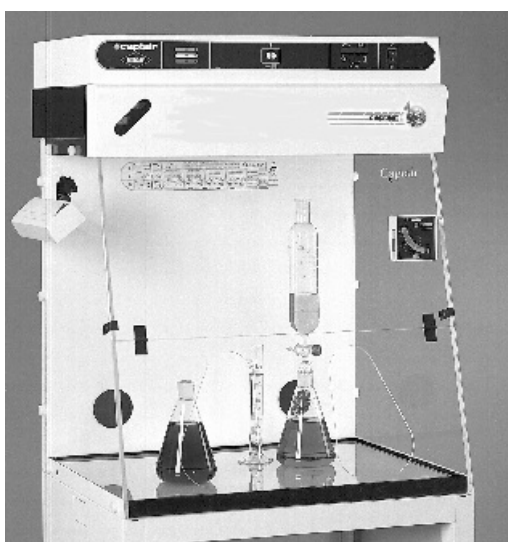
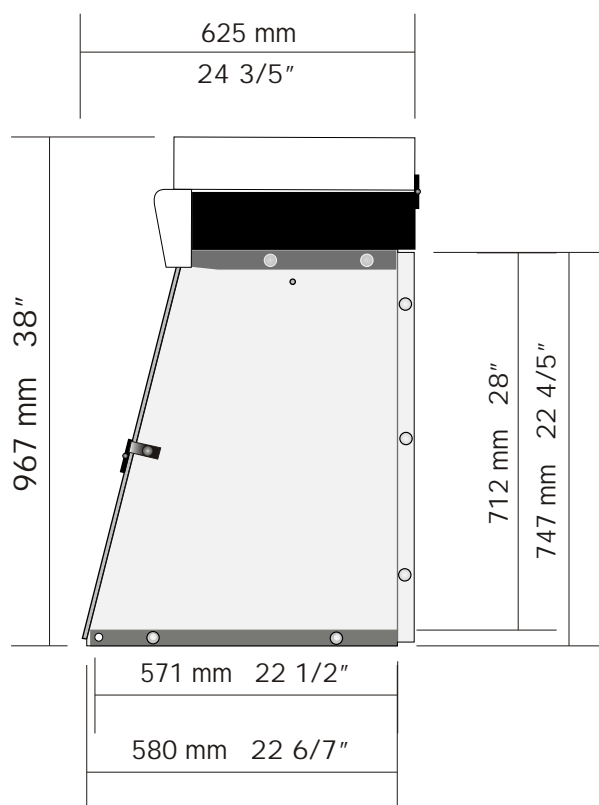
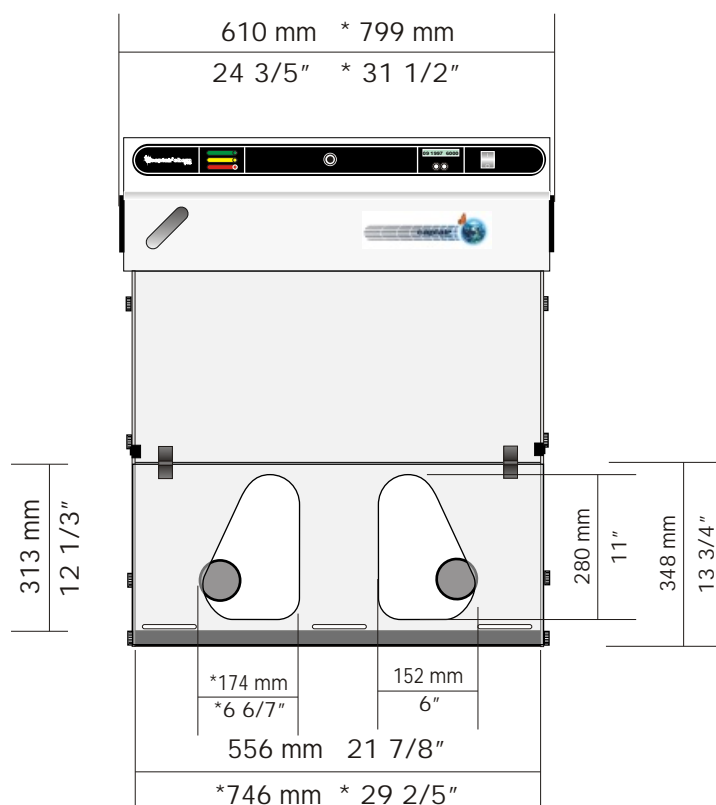
Filtair® specifications

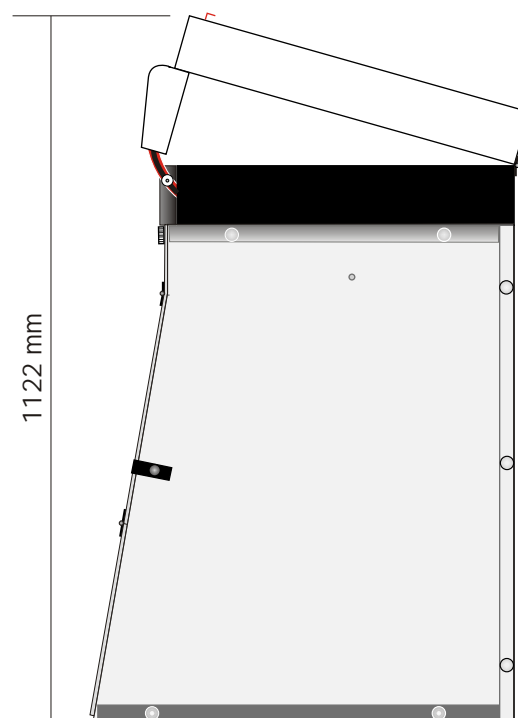
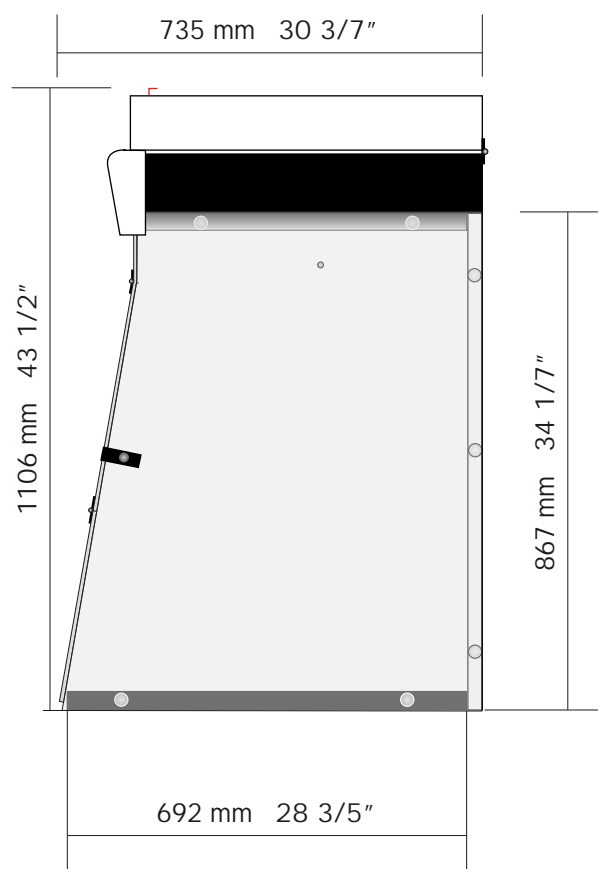
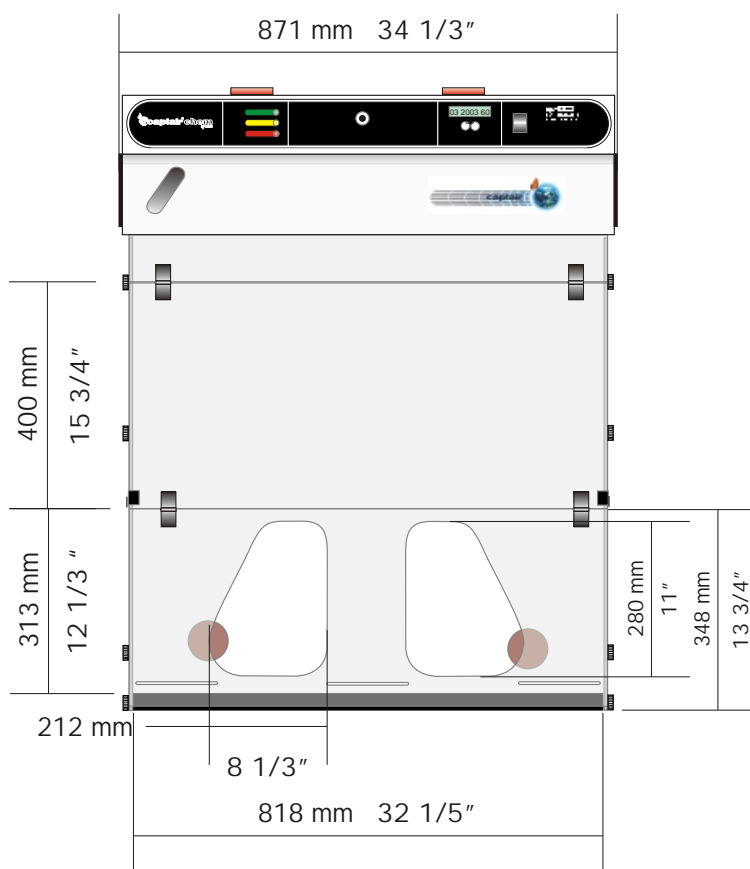
Model		623		814		824		936	
Type		M	V	M	V	M	V	M	V
External dimensions	Length	24 3/5		31 1/2		31 1/2		34 1/3	
	Height	38		28 1/3		38		43 1/2	
	Depth	24 3/5		22 1/4		24 3/5		30 3/7	
Internal dimensions	Length	21 7/8		29 1/3		29 1/3		32 1/5	
	Height	28		18 1/3		28		32 3/4	
	Depth	22 1/2		20 1/4		22 1/2		28	
Internal dimensions	Length	21 7/8		29 1/3		29 1/3		32 1/5	
	Height	22 4/5		19 5/7		22 4/5		34 1/7	
	Depth	22 1/2		20 1/4		22 1/2		28 3/5	
Retention capacity (CCI ₄) phase 4 NF X 15 211		Lbs		1,73		2,31		2,31	
Quantity of fans		1		1		1		2	
Quantity of main filters		1		1		1		2	
Total weight of the carbon filters		Lbs		4,3		5,7		5,7	
60 hour "Timer"		Serial		Serial		Serial		Serial	
Automatic detection of main filter(s) saturation		Option 32		Option 32		Option 32		Option 32	
Air velometer		Serial		Serial		Serial		Serial	
Volume of air treated		Cfm		70,8	68,4	94,2	91,2	94,2	91,2
Air velocity with lower door closed		Fpm		109,5	105	110	107	110	107
Sound level		dBA		48		49		49	
Lighting		1 X 11 watt		Option 5S		Option 5S		Option 5S	
Power consumption		Watt		50		50		50	
Electrical voltage		Volt		115		115		115	
Frequency		Hz		60		60		60	
Amperage absorbed		Ampere		0,62		0,62		0,62	
Weight of the cabinet		Lbs		128		123,5		136,7	



Filtair® 623 * 824

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90 mm 3 1/2"

Specifications of Filtair®

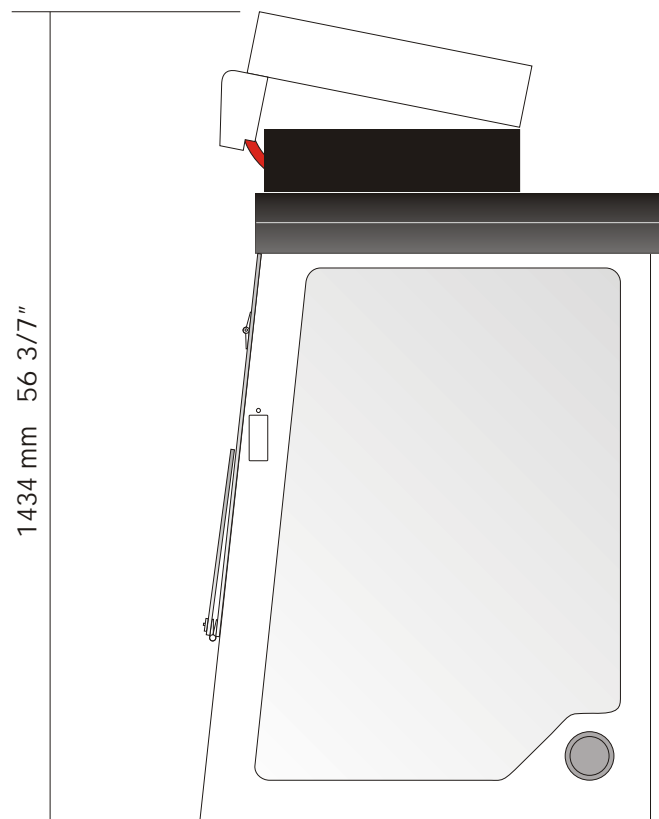
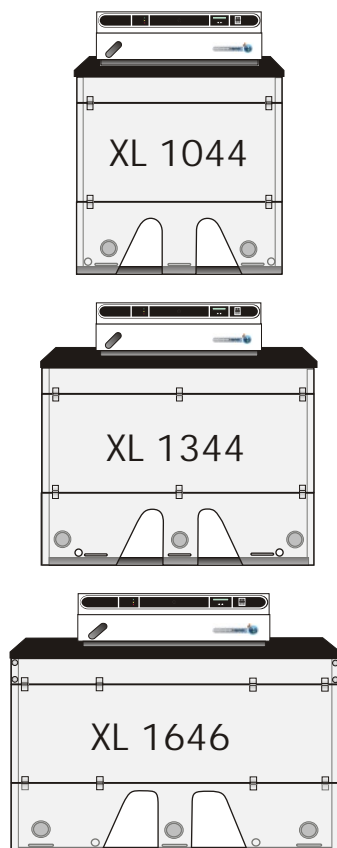
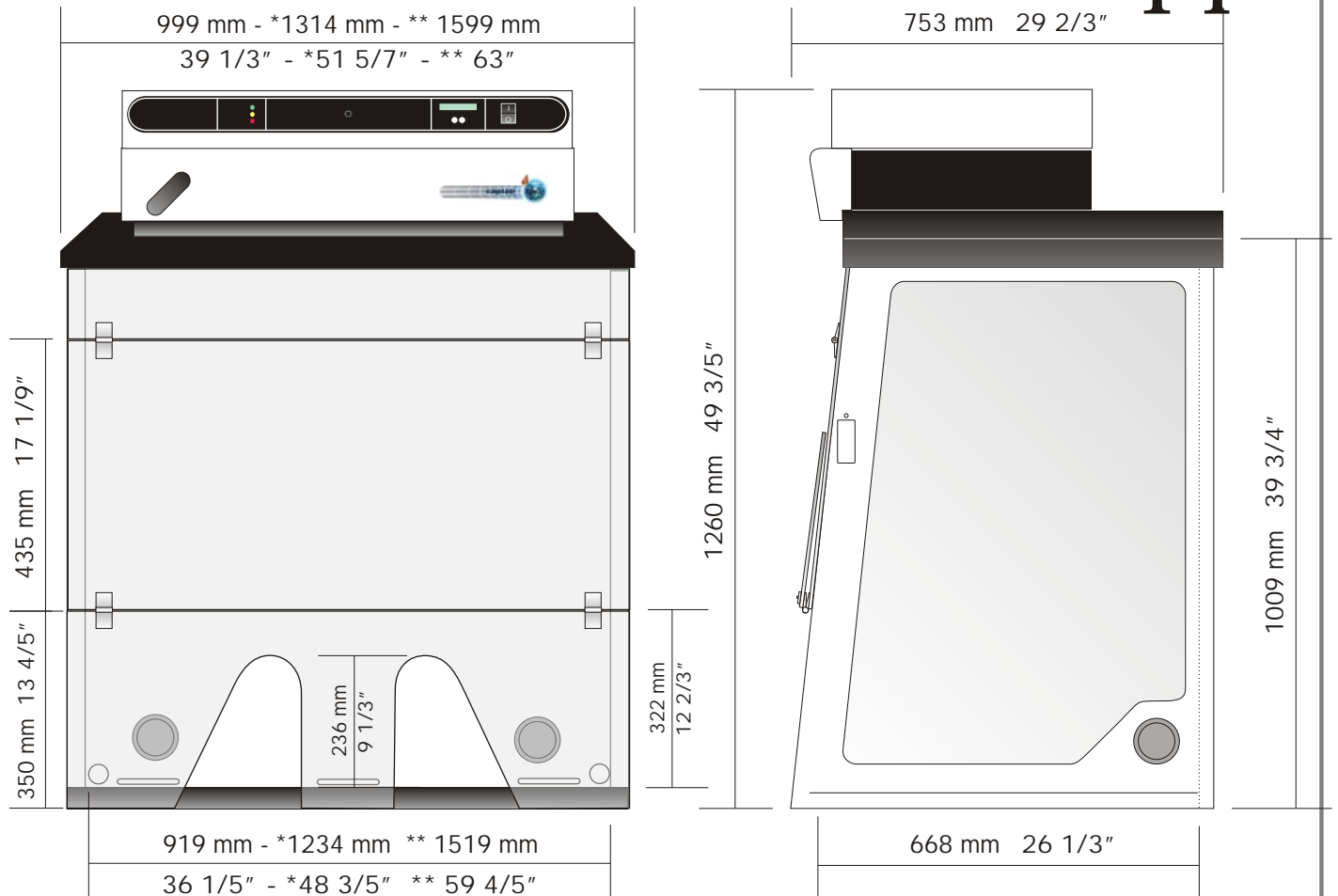
Model		XL 1044		XL 1344		XL 1646	
Type		M	V	M	V	M	V
External dimensions	Length inches	999		1314		1599	
	Height	1260		1260		1260	
	Depth	753		753		753	
Internal dimensions	Length inches	919		1234		1519	
	Height	981		981		981	
	Depth	668		668		668	
Filtair® with spill tray	Length inches	919		1234		1519	
	Height	1009		1009		1009	
	Depth	668		668		668	
Internal dimensions	Length inches	919		1234		1519	
	Height	1009		1009		1009	
	Depth	668		668		668	
Retention capacity (CCI ₄) phase 4 NF X 15 211		Lbs		1050		1050	
Quantity of fans		1		1		2	
Quantity of main filters		1		1		2	
Total weight of the carbon filters		Lbs		4,3		5,7	
60 hour "Timer"		Série		Série		Série	
Automatic detection of main filter(s) saturation		Option 32		Option 32		Option 32	
Air velometer		Série		Série		Série	
Volume of air treated		Cfm		150	145	150	145
Air velocity with lower door closed		Fpm		0,51	0,50	0,51	0,50
Sound level		dBA		49		49	
Lighting		1 X 11 watt		Option 5S		Option 5S	
Power consumption		Watt		47		47	
Electrical voltage		Volt		230		230	
Frequency		Hz		50		50	
Amperage absorbed		Ampere		0,31		0,31	
Weight of the cabinet		Lbs					

Specifications of Filtair®

Model		XL 1044		XL 1344		XL 1646	
Type		M	V	M	V	M	V
External dimensions	Length	39 1/3		51 5/7		63	
	Height	49 3/5		49 3/5		49 3/5	
	Depth	29 2/3		29 2/3		29 2/3	
Internal dimensions	Length	36 1/5		48 3/5		59 4/5	
	Height	38 3/5		38 3/5		38 3/5	
	Depth	26 1/3		26 1/3		26 1/3	
Filtair® with spill tray	Length	36 1/5		48 3/5		59 4/5	
	Height	38 3/5		38 3/5		38 3/5	
	Depth	26 1/3		26 1/3		26 1/3	
Internal dimensions	Length	36 1/5		48 3/5		59 4/5	
	Height	39 3/4		39 3/4		39 3/4	
	Depth	26 1/3		26 1/3		26 1/3	
Retention capacity (CCI ₄) phase 4 NF X 15 211		Lbs		2,31		2,31	
Quantity of fans		1		1		2	
Quantity of main filters		1		1		2	
Total weight of the carbon filters		Lbs		4,3		5,7	
60 hour "Timer"		Série		Série		Série	
Automatic detection of main filter(s) saturation		Option 32		Option 32		Option 32	
Air velometer		Série		Série		Série	
Volume of air treated		Cfm		94,2	91,2	94,2	91,2
Air velocity with lower door closed		Fpm		110	107	110	107
Sound level		dBA		49		49	
Lighting		1 X 11 watt		Option 5S		Option 5S	
Power consumption		Watt		50		50	
Electrical voltage		Volt		115		115	
Frequency		Hz		60		60	
Amperage absorbed		Ampere		0,62		0,62	
Weight of the cabinet		Lbs					

Filtair® XL 1044 - *XL 1344 - **XL 1646

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In order to help you to determine the hood and/or the filter suitable to your application, we kindly ask to spend A few minutes to answer the questions below and return this form to the following address:

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E-Mail : vente@erlab.net

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Parc d'affaires des portes - BP 403

27104 Val de Reuil Cedex - France

PRODUCT		CONTAINER			HANDLINGS											
N°	NAME	Type of Container	Surface of evaporation cm ²	Opened Yes/No or others	Concentration %	Type Of Handling	Product Temperature °C	/ Day		/ Week		/ Month				
								Frequency How many	Duration mn	Quantity ml	Frequency How many	Duration mn	Quantity ml	Frequency How many	Duration mn	Quantity ml
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																

Your Additional comments:

Company:
User:
Tel :
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